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AUTHOR Evans, Charles L.
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ABSTRACT

The Fort Worth Independent School District continued its court-ordered desegregation plan implemented in 1971-72. The evaluated design utilized in 1971-72 was extended to include bused black students in grade 3 as well as those in grades 4 and 5, and to ascertain any effects on the achievement of white third, fourth, and fifth grade students in cluster schools to which black students were bused. Standardized tests were administered to all students in cluster schools, grades 3, 4, and 5, and to students continuing to attend neighborhood schools that were not involved in the cluster arrangement. The spring achievement of students with similar mathematics ability, as measured in the fall, was the basis for the comparisons of achievement between cluster and non-cluster students. At all three grade levels, bused black students were found to have exhibited academic gains on reading and math skills during th year that significantly exceeded those of nonbused black students attending black-majority neighborhood schools. A trend for effects to be greater for higher ability black students emerged. White, third, fourth, and fifth grade children attending cluster schools to which black children were bused made normal academic progress.
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DESEGREGATION STUDY II:

ACADEMIC EFFECTS ON BUSED BLACK AND RECEIVING WHITE STUDENTS

1972-73

Prepared for

Dr. Julius Truelson, Superintendent
Fort Worth Independent School District

UD 014 457

by
Charles L. Evans, Ed.D., Director
Department of Research/Evaluation

August, 1973

Director
Research and Evaluation

DATE: August 15, 1973

TO: Gerald Ward

FROM: Charles L. Evans CE

SUBJECT: Integration Evaluation

Introduction

The Fort Worth Independent School District continued, in 1972-73, its court-ordered desegregation plan implemented in 1971-72. This plan was described in detail in the first year's assessment of results (1) and will not be repeated in this report.

The evaluation design utilized in 1971-72 was also re-implemented, but extended to include bused black students in grade three, as well as those in grades four and five, and to ascertain any effects on the achievement of white third, fourth, and fifth grade students in cluster schools to which black students were bused. Standardized tests were administered to all students in cluster schools, grades 3, 4, and 5, and to both black and white students continuing to attend neighborhood schools that were not involved in the cluster arrangement. These tests, measuring reading comprehension and mathematics skills, were administered at the beginning and at the end of the school year. The spring achievement of students with similar mathematics ability, as measured in the fall, was the basis for the comparisons of achievement between cluster and non-cluster students. This statistical procedure involved the use of the analysis of covariance treatment that adjusts group means for initial group difference on one or more relevant variables. Schools used for comparative purposes were generally matched with cluster schools in terms of socio-economic areas served and the general level of academic achievement.

Results

Results are reported separately for black bused students and for white students in "receiving" schools.

Achievement of Black Bused Students

The achievement of black bused students were compared to that of black students who attended black-majority neighborhood schools in 1972-73. These comparisons are presented in Table 1. Scores are rounded to one decimal place.

Table 1. A Comparison* of the Academic Achievement of Bused Black Students and Black Children Attending Black-Majority Neighborhood Schools

Grade and Group	Reading Comprehension		Mathematical Concepts	
	Number	Spring Achievement** 1973	Number	Spring Achievement** 1973
Grade 3				
Bused Black Students	369	2.8 yrs.	367	2.9 yrs.
Neighborhood Black Students	435	2.7 yrs.	431	2.7 yrs.
Grade 4				
Bused Black Students	362	3.4 yrs.	365	3.7 yrs.
Neighborhood Black Students	453	3.3 yrs.	452	3.4 yrs.
Grade 5				
Bused Black Students	349	4.1 yrs.	355	4.5 yrs.
Neighborhood Black Students	428	4.0 yrs.	425	4.2 yrs.

*All differences favored the bused black children and were statistically significant at the .05 level of confidence or beyond.
**Scores compare children of equal ability from similar socio-economic neighborhoods.

The test scores of bused black students significantly (P = .05) exceeded those of similar black students who attended black-majority neighborhood schools during 1972-73 in both reading and mathematics at all grade levels. Generally, the year's growth of bused black students exceeded that of comparative black students by 1 to 3 months.

Achievement of White "Receiving" Students

The academic achievement of white students attending cluster schools to which black students were bused was also examined at grade levels 3, 4, and 5. Comparisons of these students' achievement with that of similar white students is shown in Table 2. These scores are rounded to one decimal place.

Table 2. A Comparison* of the Academic Achievement of White Students in Cluster Schools and White Students Attending Non-Cluster, White-Majority Schools

Grade and Group	Reading Comprehension		Mathematical Concepts	
	Number	Spring Achievement** 1973	Number	Spring Achievement** 1973
Grade 3				
Cluster White Students	918	3.8 yrs.	906	3.7 yrs.
Non-Cluster White Students	962	3.9 yrs.	894	3.8 yrs.
Grade 4				
Cluster White Students	1039	4.5 yrs.	1047	4.7 yrs.
Non-Cluster White Students	858	4.5 yrs.	858	4.7 yrs.
Grade 5				
Cluster White Students	1105	5.6 yrs.	1088	5.6 yrs.
Non-Cluster White Students	953	5.6 yrs.	915	5.6 yrs.

*None of the differences in achievement were statistically significant.
**Scores compare children of equal ability from similar socio-economic neighborhoods.

There were no statistically significant differences in achievement of students in the two groups. Only chance fluctuations in scores emerged from the statistical analysis. Results were similar for all levels.

Summary Statements

At all three grade levels bused black students exhibited academic gains on reading and math skills during the year that significantly exceeded those of non-bused black students attending black-majority neighborhood schools. The data also revealed a trend for effects to be greater for higher ability black students.

White third, fourth, and fifth grade children attending cluster schools to which black children were bused made normal academic progress.

1. Evans, Charles L., "Short-Term Desegregation Effects: The Academic Achievement of Bused Students, 1971-72," Fort Worth Independent School District, Department of Research and Evaluation, January, 1973.

APPENDIX A

Data Analysis: Black Students, Grade 3

Grade 3, Reading

Analysis of Covariance Table

Source of Variance	Df	SSX	SSY	SSXY	SSY.X	VY.X	F
Among	1	.4	462	15	469	468.9	
Within	801	66837.5	59825	14955	56479	70.5	
Totals	802	66837.9	60287	14940	56948	-	6.65

Miscellaneous Data

Group	N	Pretest	Posttest	Adj. Posttest	r
Bused Black	369	2.465	2.823	2.823	.377
Non-Bused Blacks	435	2.470	2.671	2.670	.132

Grade 3, Mathematics

Analysis of Covariance Table

Source of Variance	Df	SSX	SSY	SSXY	SSY.X	VY.X	F
Among	1	30.9	966	172	743	742.7	
Within	795	30207.7	47659	20827	33300	41.9	
Totals	796	30238.6	48625	20999	34042	-	17.73

Miscellaneous Data

Group	N	Pretest	Posttest	Adj. Posttest	r
Bused Black	367	2.482	2.931	2.916	.582
Non-Bused Black	431	2.443	2.710	2.722	.507

APPENDIX B

Data Analysis: Black Students, Grade 4

Grade 4, Reading

Analysis of Covariance Table

Source of Variance	Df	SSX	SSY	SSXY	SSY.X	VY.X	F
Among	1	124.4	741	304	451	451.0	
Within	812	65824.0	71123	35212	52287	64.4	
Totals	813	65948.4	71864	35515	52738	-	7.00

Miscellaneous Data

Group	N	Pretest	Posttest	Adj. Posttest	r
Bused Black	362	3.235	3.425	3.401	.556
Non-Bused Black	453	3.157	3.233	3.251	.482

Grade 4, Mathematics

Analysis of Covariance Table

Source of Variance	Df	SSX	SSY	SSXY	SSY.X	VY.X	F
Among	1	91.5	1484	369	1055	1055.0	
Within	814	45274.6	58814	28423	40971	50.3	
Totals	815	45366.1	60298	28791	42026	-	20.96

Miscellaneous Data

Group	N	Pretest	Posttest	Adj. Posttest	r
Bused Black	365	3.357	3.689	3.665	.570
Non-Bused Black	452	3.289	3.418	3.437	.535

APPENDIX C

Data Analysis: Black Students, Grade 5

Grade 5, Reading

Analysis of Covariance Table

Source of Variance	Df	SSX	SSY	SSXY	SSY.X	VY.X	F
Among	1	4068.0	3417	3729	302	301.9	
Within	774	85427.0	88121	54437	53432	69.0	
Totals	775	89495.0	91538	58166	53734		4.37

Miscellaneous Data

Group	N	Pretest	Posttest	Adj. Posttest	r
Bused Black	349	4.102	4.302	4.141	.687
Non-Bused Black	428	3.642	3.880	4.012	.554

Grade 5, Mathematics

Analysis of Covariance Table

Source of Variance	Df	SSX	SSY	SSXY	SSY.X	VY.X	F
Among	1	263.0	2353	786	1595	1594.7	
Within	777	66041.0	75164	34630	57005	73.4	
Totals	778	66304.0	77517	35416	58600	-	21.74

Miscellaneous Data

Group	N	Pretest	Posttest	Adj. Posttest	r
Bused Black	355	4.107	4.565	4.531	.544
Non-Bused Black	425	3.990	4.216	4.244	.430